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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09,251,172	02/17/1999	AMMAR DERRAA	M130-034	2938

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EXAMINER

RAMSEY, KENNETH J

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 08/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/251,172

Applicant(s)

DERRAA, AMMAR

Examiner

Kenneth J. Ramsey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27, 32 and 41-47 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27, 32 and 41-47 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notices of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

CPA

1. The request filed on July 25, 2002 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/251172 is acceptable and a CPA has been established. Also the amendment filed July 25, 2002 has been entered. An action on the CPA follows.

Prior Art Rejections

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al (5,872,019. Lee et al '019 teaches a method of forming an array of independently addressable discrete segmented field emitter regions 33 on a monolithic base plate, column 7, lines 43-45, by etching at least portions of the substrate, column 4, lines 59-60. Thereafter the discrete emitter regions are electrically isolated by boron doping,

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column 5, lines 16-19. Considering the display (figure 7) as comprising at least 4 columns (or regions) of emitters, each column (region) of emitters is clearly separately addressable by the cathode drive circuitry. As to claims 2-7 and 12-14, there are as many discrete emitter regions 33 as there are cathode lines, at least four, and each column is independently addressable by the cathode drive circuit. As to claim 9, the drive circuit is clearly coupled to the base plate.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10-27, 32, and 41-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (5,872,019) in view of Hodson et al and Benjamin et al. Lee et al discloses a process for forming a base plate for a field emission display comprising providing a substrate configurable into a monolithic base plate for a field emission display. Lee et al differs from claims 15-17 by the partitioning of each separately addressable region of pixels into plural rows and columns of pixels. Lee et al differs from claims 18 – 23 and 32 and 41-47 by the forming of at least one row or column address line with a length or width that address less than all of the pixels in that row or column and by the partitioning of the matrix of pixels into sub-matrices of pixels. Lee et al also differs from claims 24-27, 32 and 41-47 by the steps of providing a face plate supporting areas of luminescent material in operable proximity with the substrate. Hodson et al and Benjamin et al each teach dividing a matrix of pixel electrodes into 4

sub-matrices of plural rows or columns which are independently addressable in order to overcome a previous limit as to the size of the display. In Hodson et al the size limitation was due to technology re either of refresh rates or the inability to provide a monolithic display plate with an area larger than a 10 inch diagonal. Hodson et al discloses tiling 4 or more emitter base plates, independently addressable, onto a monolithic base plate to provide a display larger in area than a 10 inch diagonal. However, for video applications which require a fast display refresh rate, Benjamin et al, column 8, lines 10-22, teaches that a monolithic baseplate 3 having an array of pixel electrodes p with plural driving circuit chips 9 requires subdividing the matrix into sub-matrices such that the row or column lines are no more than 15 cm (about 6 inches) long. Therefore, the teaching of Hodson et al of providing independent means to address 4 separate regions of the emitters to increase the refresh rate is clearly applicable to monolithic displays because as taught by Benjamin et al, certain applications require a faster refresh rate than previously possible with monolithic displays of appreciable size. Thus for the use of the monolithic display of Lee et al '019 in video applications, it would have been obvious to one of ordinary skill in the art to subdivide the matrix of rows and columns into 4 matrices of independently addressable rows and columns as taught by Hodson in order to provide a quicker refresh rate since as shown by Benjamin et al, motivation to provide independent display regions in a monolithic panel to increase the refresh rate as claimed clearly existed at the time of applicants invention. Therefore, the invention is clearly obvious.

6. Claims 1-27, 32 and 41-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (5,872,019) in view of Hodson et al and Benjamin et al as applied to claim 1, further in view of Lee et al (6,326,221). It would have been obvious to one of ordinary skill in the art to provide electrical isolation between the 4 sub-regions of independently addressable top and bottom, right and left sides of pixel rows or columns by etching to divide a electrically connected region into two electrically isolated regions as taught by Lee et al '221, column 2, lines 60-62.

Response to Applicant's Arguments

7. Applicant's argument that Benjamin does not teach a "monolithic display" may be literally correct; however, the claims require only a monolithic base-plate of a display in which cathodes or emitters are provided. This is taught by Benjamin et al to the extent that the pixel electrodes P are on a monolithic base-plate. The claimed invention does not require the driver means to be a part of the monolithic plate on which the emitters are formed. See applicants claim 9. Most of the applicant's arguments have been addressed by reconfiguring the basic rejection using Lee et al '019 as the primary reference. As stated by the examiner previously, the details of manufacture of the claimed display (other than the step of providing plural independent driver means) as recited in the claims were well known at the time of applicant's invention. Thus Lee et al does form the emitters from the material of the substrate by removing a portion thereof and does provide isolation between different regions of emitters. Although Lee et al '019 fails to explicitly state that the different regions are separately addressable or that a monolithic base-plate is used, that is clearly the case. See column 7, lines 42-51.

Further, the examiner maintains that Hodson and Benjamin et al do provide motivation to make the proposed combination of the references as stated by the examiner.

Clearly, Hodson and Benjamin each teach aspects of display technology of general applicability which would have been considered by one of ordinary skill in the display industry, thus that Hodson and Benjamin also each address differing needs of the display industry does not negate the fact that certain features of one reference are obviously applicable to the other. Moreover, the prior art is clearly analogous and has been fairly applied. The applicant has cited no case law to support the argument, page 21, lines 10-18, that the fact that one technology may be less desirable than another renders "as a matter of law" the teachings thereof uncombinable. Also, since the claimed process steps (other than plural independent driver display taught by Hodson et al) were well known in the art at the time of applicant's invention, it is not seen that there would be any doubt that regarding an expectation of success or that all of the claimed limitations were suggested by the reference combination. The references do not teach away from their combination as argued by applicant. The step of tiling separate emitter plates in Hodson was not the main *raison d'etre* of Hodson. The main *raison d'etre* of Hodson et al, column 2, lines 26 to 29, was to provide a large display where one high resolution display could be updated independently of at least one other image. To obtain that result by tiling multiple substrates and providing independent driver means was only one means to this end. Clearly a monolithic display, where possible, is no less unsatisfactory for the intended purpose than a tiled display. Thus applicant has not

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shown that the proposed combination renders the prior art unsatisfactory for its intended purpose.

Directions for Responses

Any formal response to this communication should be directed to examiner

Kenneth Ramsey, Art Unit 2879, and either

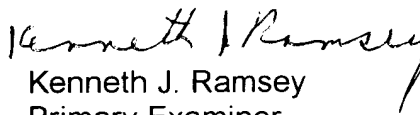
faxed to: 703-872-9318;

or mailed to:

Assistant Commissioner For Patents
Washington, D.C. 20231

Technical inquiries concerning this communication should be directed to Kenneth J. Ramsey, (703) 308-2324 (voice), (703) 746-4832 (fax).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Kenneth J. Ramsey
Primary Examiner
Art Unit 2879

kjr
August 8, 2002